

of 10/714,424 (the “Application”), which claims a charge and discharge control circuit employing fewer components (and specifically, a single, enhancement-mode junction-field-effect-transistor switch with a PN junction gate requiring forward current flow and a single capacitor device with a variable current-flow drive circuit) as compared with the prior art thereby reducing cost as well as facilitating monolithic integration.

- b. In clear contrast with examiner Tso’s explanation, that Thomas-763 “discloses a protection circuit having, *inter alia*, a control circuit for operating a transistor switch wherein capacitor circuit is used for thermo-protection”, the Application describes and claims the use of a capacitor device for maintaining the voltage at the PN-junction control gate of the switch device of the invention disclosed in the Application, as well as to provide a delay in the re-activation of the switch device after a short-circuit event through the variable current flow that charges this capacitor being reduced to a very small value such as a leak current value.
- c. Whereas it is true in Thomas-763 as cited by examiner Tso that “Circuitry is provided to control the flow of current through the gates.”, the Application claims circuitry that drives a current *into, and through* a control gate of a single JFET switch device as opposed to the circuitry connecting to dual, series connected MOSFET switch devices indicated in figure 2 of Thomas-763. No circuitry such as that claimed by the Application is anticipated, or claimed, by Thomas-763, or by any other documented or known prior art.
- d. No diagrams or specification within Thomas-763 indicate a capacitor device connected to the control gate of any switch device for the express purpose of stabilizing the voltage at such gate and to provide a delay, or any other function.

- e. The principal focus of Thomas-763 is upon the use of a thermally sensitive resistor connected in series with the charge and discharge current path serving to limit damage to electronic circuits associated with the charging and discharge of a chargeable device. The Application, in its focus upon the use of specific electronic devices connected in a specific manner to accomplish substantial reduction in the number of components necessary for charging and discharging of battery cells, where the number and type of devices employed as well as the interconnection specified are not anticipated or claimed by Thomas-763, is entirely distinct from Thomas-763.
- f. As clearly described in the "Key advantages" section of the Application's specification, the Application expressly *eliminates* series resistors from the current path, while Thomas-763 expressly *includes* a thermally responsive series resistor in the current path.

  

6. For the reasons provided in (5), applicant respectfully requests that the amended claims of the Application (10/714,424) be allowed.
7. The applicant may be reached by telephone at (480) 325-6247 between the hours of 10am and 4pm AZ, or (480) 694-5984 on his mobile phone, or by facsimile at (480) 924-4957.

Sincerely,



---

Rajendran Nair  
3838 E. Encinas Ave., Gilbert, AZ 85234  
ComLSI Inc. [www.comlsi.com](http://www.comlsi.com)